

## **ABSTRACT**

**[0082]** A leakage inverter has a switching delay in one direction that is directly proportional to the drain or gate leakage current of either an n-type or p-type device. For one aspect, a leakage ring oscillator includes an odd number of inverters including at least one leakage inverter such that the frequency of oscillation of the leakage ring oscillator is directly proportional to local device leakage. For another aspect, a leakage ring oscillator may be used to indicate temperature and/or temperature variation on a die.